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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,057	06/15/2001	Andre Tore	2789-40	6071

7590 07/30/2004

NIXON & VANDERHYE P.C.  
1100 North Glebe Road, 8th Floor  
Arlington, VA 22201

EXAMINER

AHN, SAM K

ART UNIT PAPER NUMBER

2637

DATE MAILED: 07/30/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,057

Applicant(s)

TORRE, ANDRE

Examiner

Sam K. Ahn

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on pre-amendment, 6/15/01.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5,7,8.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The elements in Fig.1,3 and 6-8 need to have descriptive label, in conformance with 37 CFR 1.84(n) and 1.84(o). For example, a descriptive label of "buffer" should be inserted into 32 of Fig.1 to properly describe element of buffer.

### ***Specification***

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Therefore, the examiner suggests rearranging the specification with the guideline set as above.

3. For the formality of the application under the present office practice, applicant(s) is required to replace "Claims" with "I or We Claim", "The Invention Claimed Is" (or the equivalent) before the Claims part of the specification of the instant application. See MPEP 608.01(m).

#### ***Claim Objections***

4. Claims 1-11 are objected to because of the following informalities:
  - In claims 1-11, please delete the letters A and B in the parenthesis.
  - In claim 1, line 3, delete "each being" and insert "each of said plurality of data symbols having".
  - In claim 1, line 4, delete "transmitted data symbols" and insert "transmitted of said plurality of data symbols".
  - In claim 1, line 6, delete "a second a second prefix" and insert "a second prefix".
  - In claim 1, line 6, delete "each first prefix" and insert "each of said first prefix".
  - In claim 1, line 8, delete "prefix," and insert "prefix, wherein".
  - In claim 1, line 9, delete "that" and insert "the length".
  - In claim 1, line 10, delete "characterized by".

In claim 2, line 2, delete "first and" and insert "first signal and".

In claim 4, line 5, delete "in" and insert "into".

In claim 5, line 3, delete "a impulse response of said filter" and insert "said infinite impulse response of said second filter portion".

In claim 8, lines 2-3, delete "each data symbol" and insert "each of said data symbols".

In claim 8, line 7, delete "each first prefix" and insert "each of said first prefix".

In claim 8, line 9, delete "that" and insert "the length".

In claim 8, lines 10-12, delete "said signal" and insert "said received signal".

In claim 8, line 13, delete "first prefix and " and insert "first prefix with said second prefix and".

In claim 10, line 2, delete "first and " and insert "first buffer portion and".

In claim 11, lines 2-3, delete "a impulse response of said filter" and insert "said infinite impulse response of said second filter portion".

Claims 3,6,7 and 9 directly depend on claim 1 or 8.

Appropriate correction is required.

***Allowable Subject Matter***

5. Claims 1-11 would be allowable if rewritten or amended to overcome the claim rejections set forth in this Office action.
6. The following is a statement of reasons for the indication of allowable subject matter: Present application discloses a receiver and a method for removing

intersymbol interference in a DSL environment comprising filters, buffers, prefix generator and a prefix replacement means. When the signal is received, it initially is filtered by a FIR filter to introduce zeros in the transfer function, then the signals are temporarily stored in a buffer. The prefix generator generates prefix, which are then replaced with the prefix from the signal received, which is currently stored in the buffer. The new prefix generated has a length longer than the prefix in the received signal. Then, the signal stored in the buffer is passed on to an infinite impulse response filter to introduce poles in the transfer function, which then the intersymbol interference in the received signal is removed. Closest prior arts, Harikumar et al. and Weck (cited in IDS) teach in the same field of endeavor. However, Harikumar nor Weck, solely or in combination do not teach or suggest in combination of all the subject matter claimed.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hayashino et al. teach receiving OFDM signal and stripping prefix from the signal before decoding wherein the receiver also comprises filters and correlators.

Mukherjee teaches an equalizer in a DSL environment comprising FIR and IIR filters.

Strait teaches equalizer with FIR and IIR filtering characteristics to further remove echo.

Endres et al. teach equalizer wherein indexes are replaced through tap filtering.

8. This application is in condition for allowance except for the following formal matters:

Drawings, Specification and Claim objections.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Sam Ahn** whose telephone number is **(703) 305-0754**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jay Patel**, can be reached at **(703) 308-7728**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

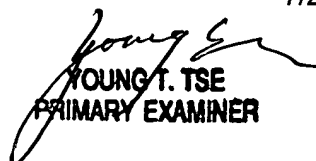
**or faxed to:**

**(703) 872-9306**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Sam K. Ahn  
7/25/04

  
**YOUNG T. TSE**  
**PRIMARY EXAMINER**